

**NYCDEP AND NYSDEC
PRESENTATION SLIDES –
MAY 21, 2008
ALLEY CREEK AND
LITTLE NECK BAY
WB/WS FACILITY PLAN MEETING**

**RESPONSIVENESS SUMMARY TO
QUESTIONS AND COMMENTS ON THE
ALLEY CREEK AND LITTLE NECK BAY
WB/WS FACILITY PLAN**

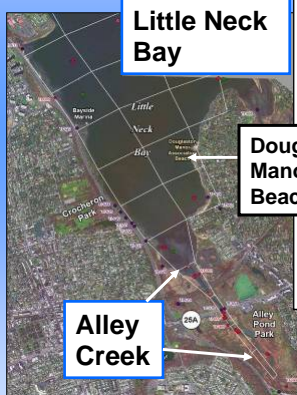


New York City Department of Environmental Protection Alley Creek and Little Neck Bay Waterbody/Watershed Facility Plan



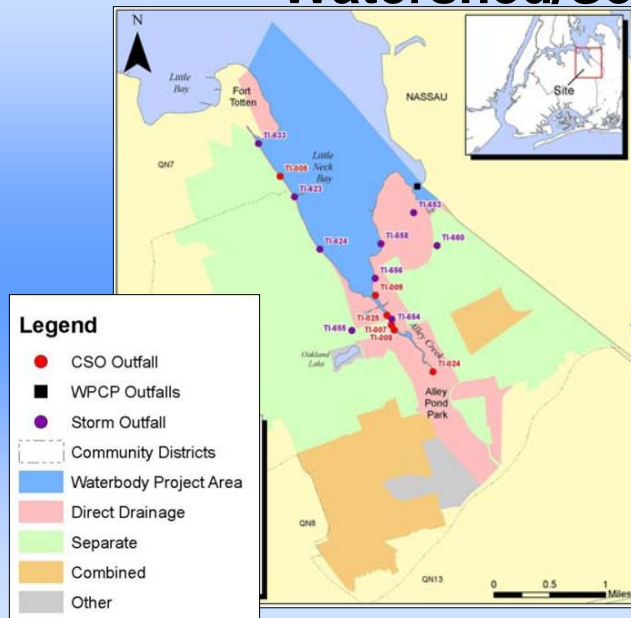
Keith Mahoney, P.E.
Chief, Process Evaluations and Design
May 21, 2008

Waterbody Introduction



- Tributary to the East River / Long Island Sound
- Little Neck Bay - Class SB Bathing Beach on Little Neck Bay
- Alley Creek – Class I
- Alley Creek Headwaters are in Alley Pond Park

Watershed/Sewershed



- Separately Sewered
- CSO Areas
- Direct Drainage
- Other (Parks etc.)
- CSO Outfalls and Stormwater Outfalls

Baseline Water Quality

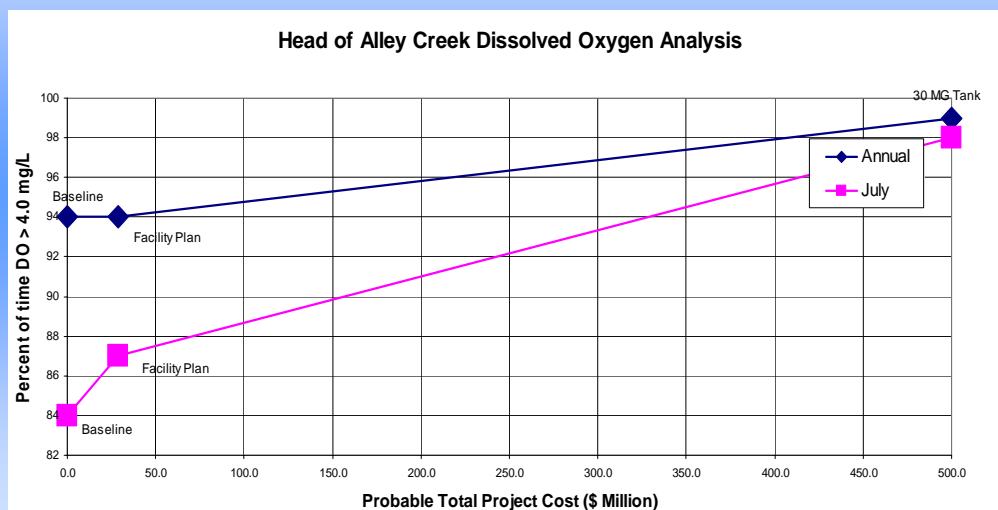
- Dissolved Oxygen
 - Alley Creek, some values less than 4.0 mg/L
 - Little Neck Bay, essentially all values greater than 5.0 mg/L
- Pathogens
 - DMA Beach – Class SB Standards Met
 - Little Neck Bay – Class SB Standards Met
 - Alley Creek – Class I Standards are Met



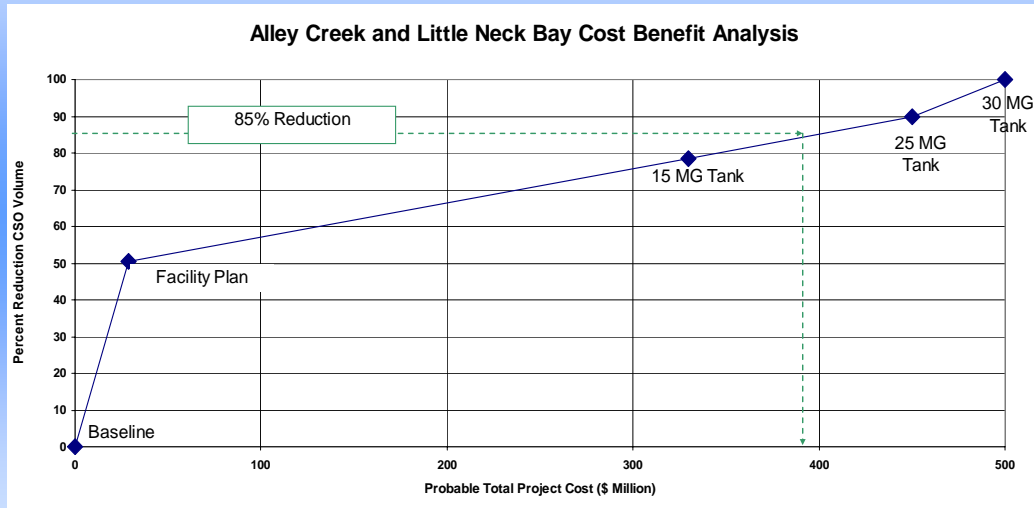
CSO Control Alternatives Evaluated

- Alley Creek Tank Dewatering Procedure
- Use of Bendable Weirs
 - At TI-025
 - At Chamber 6 to Reduce TI-008 CSO
- CSO Storage Tanks
 - 5 MG
 - 15 MG & 25 MG
 - 30 MG, Required for 100% CSO Reduction

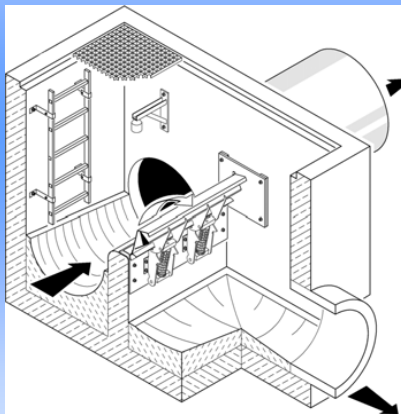
Dissolved Oxygen Compliance



CSO Alternatives Evaluation



Bending Weir



Evaluation

Based on stakeholders' input:

- As-Built Drawings reviewed to determine beneficial use of bending weir
- Hydraulic calculations performed

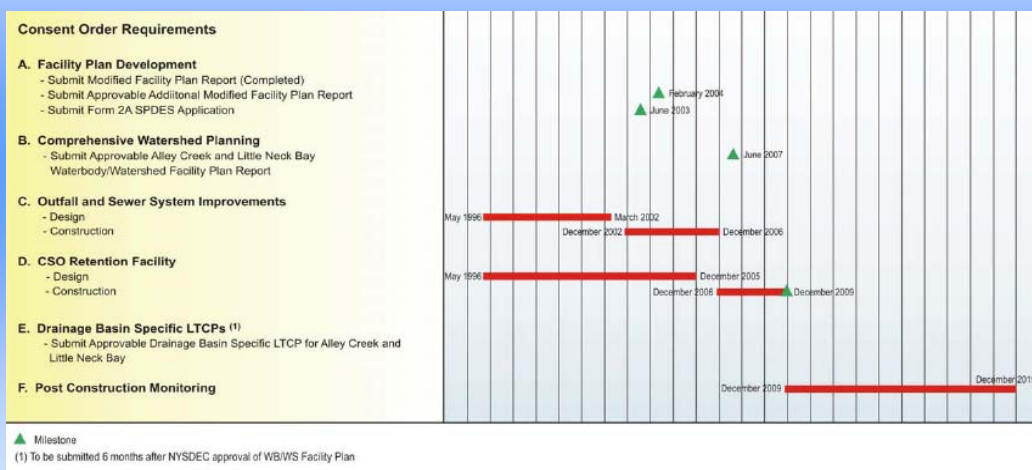
Status

- Pending discussions with NYSDEC
- Bending weir will be investigated at other possible locations in NYC

Alley Creek and Little Neck Bay WB/WS Facility Plan

- Alley Creek CSO Retention Tank, TI-025
- Wet Weather Operation of Tank to Maximize CSO Capture and Treatment
- Bending Weir (Still under evaluation)
- Post Construction Monitoring
 - Tank Performance
 - Alley Creek – 2 Stations
 - Little Neck Bay – 1 Station
- Continuation of Programmatic Controls

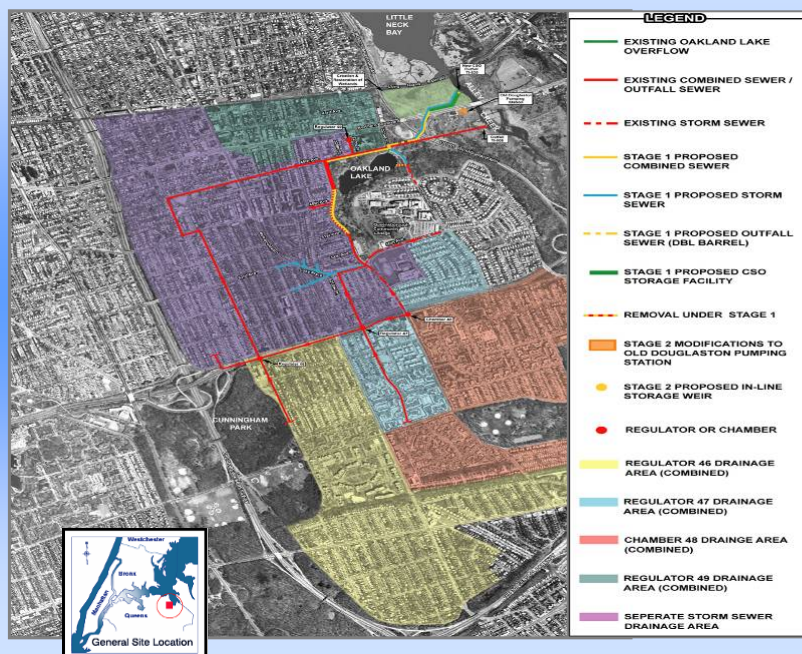
Alley Creek WB/WS Facility Plan Schedule



Alley Creek WB/WS Schedule

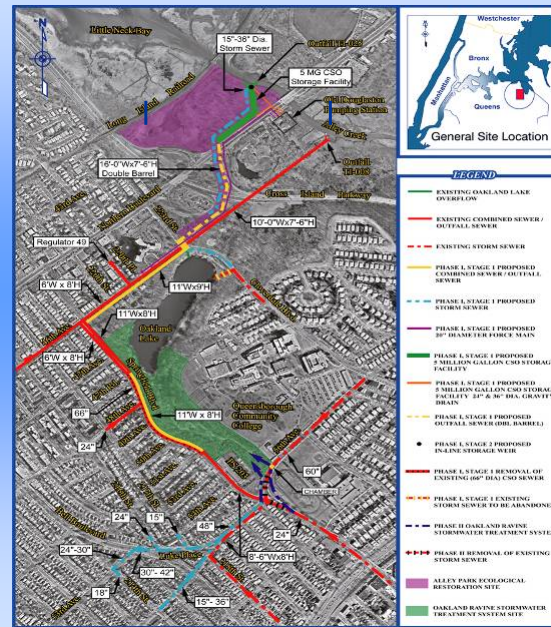
Consent Order Requirements		Milestone Date
A. Facility Plan Development		
1. Submit Modified Facility Plan Report	Completed	(Milestone Met)
2. Submit Approvable Additional Modified Facility Plan Report	February 2004	(Milestone Met)
3. Submit Form 2A SPDES Application	June 2003	(Milestone Met)
B. Comprehensive Watershed Planning		
1. Submit Approvable Alley Creek WB/WS Facility Plan Report	June 2007	(Milestone Met)
2. Submit Approvable East River WB/WS Facility Plan Report	June 2007	(Milestone Met)
C. Outfall and Sewer System Improvements		
1. Initiate Final Design	May 1996	(Milestone Met)
2. Final Design Completion Including CPM Analysis	March 2002	(Milestone Met)
3. Notice to Proceed to Construction	December 2002	(Milestone Met)
4. Construction Completion	December 2006	(Milestone Met)
D. CSO Retention Facility		
1. Initiate Final Design	May 1996	(Milestone Met)
2. Final Design Completion Including CPM Analysis	December 2005	(Milestone Met)
3. Notice to Proceed to Construction	December 2006	(Milestone Met)
4. Construction Completion	December 2009	Future Milestone
E. Drainage Basin Specific LTCPs		
1. Submit Approvable Drainage Basin Specific LTCP for Alley Creek	6 months after approval of B.1.	Future Milestone
2. Submit Approvable Drainage Basin Specific LTCP for East River	6 months after approval of B.1.	Future Milestone

Overview of the Alley Creek



Scope of Work for Stage 1

- Upstream Improvements
 - Storm Sewers
 - Combined Sewers
 - New Outfall Sewer
- CSO Retention Facility Structure
- Other Improvements
 - New 20" Dia. Force Main
 - New Storm Drainage System for Cross Island Parkway



LOOKING WEST AT PROJECT SITE BEYOND CHAMBER NO. 11



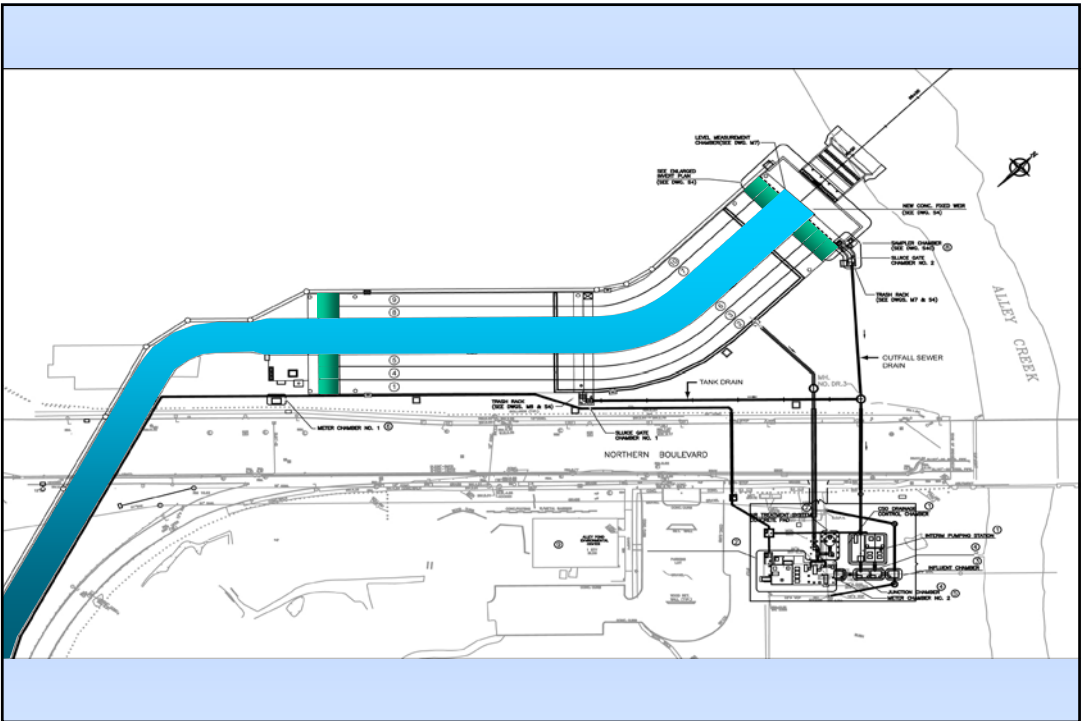
20'-0"W x 7'-6" OUTFALL SEWER

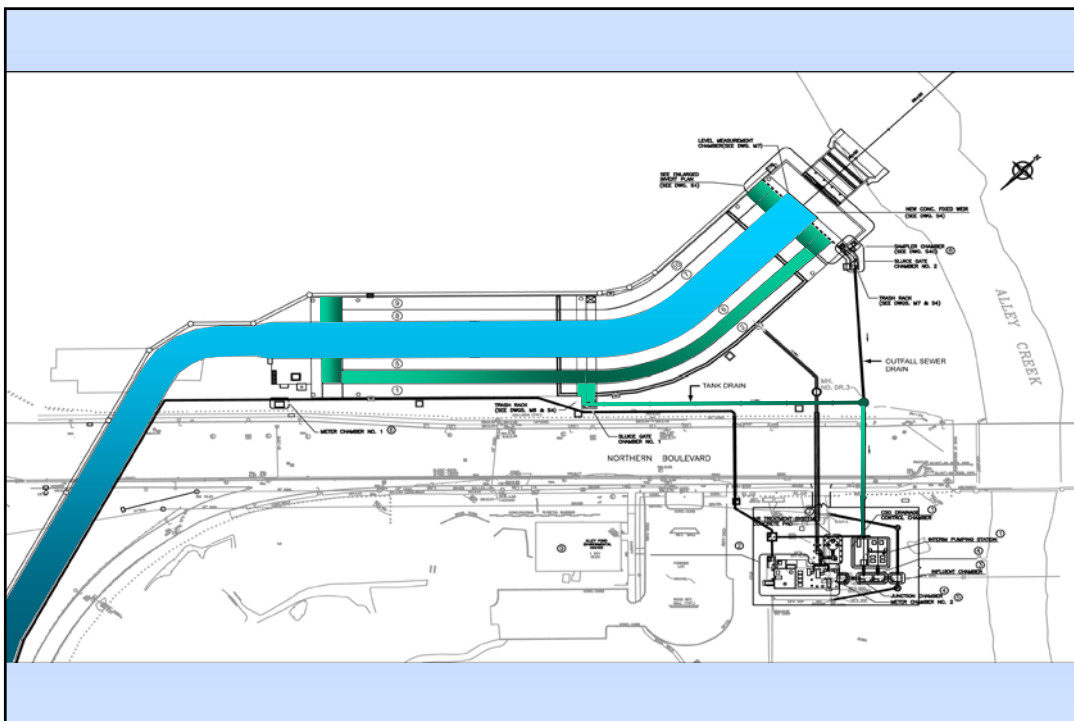


DOUBLE BARREL 20'-0"W x 7'-6"

OLD DOUGLASTON PUMPING STATION MODIFICATIONS (STAGE 2)

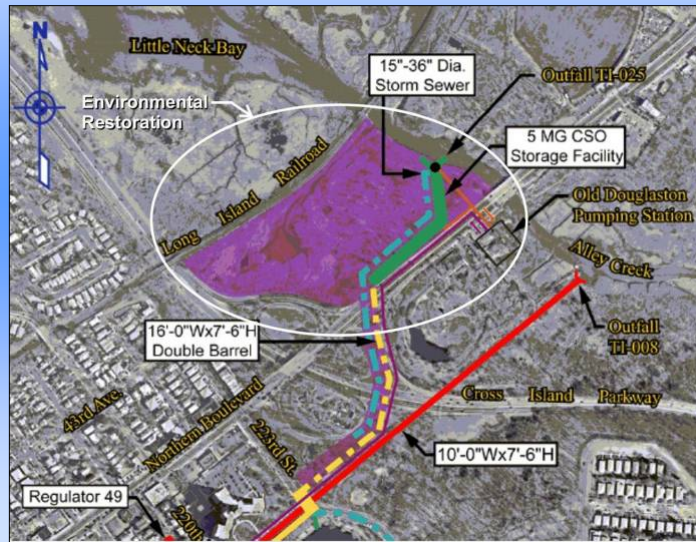
DRAINING CYCLE FOR CSO RETENTION FACILITY





Ongoing DEP Projects

Alley Park Environmental Restoration



- 23 Acres
- Wetland restoration
- North of Northern Blvd.

Environmental Restoration

FINAL GRADING PLAN



Ongoing DEP Projects Bluebelt Improvements at Oakland Lake

Site No. 1



Site No. 2



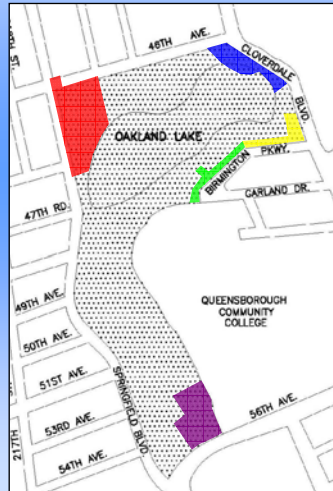
Site No. 3



Site No. 4



Site No. 5

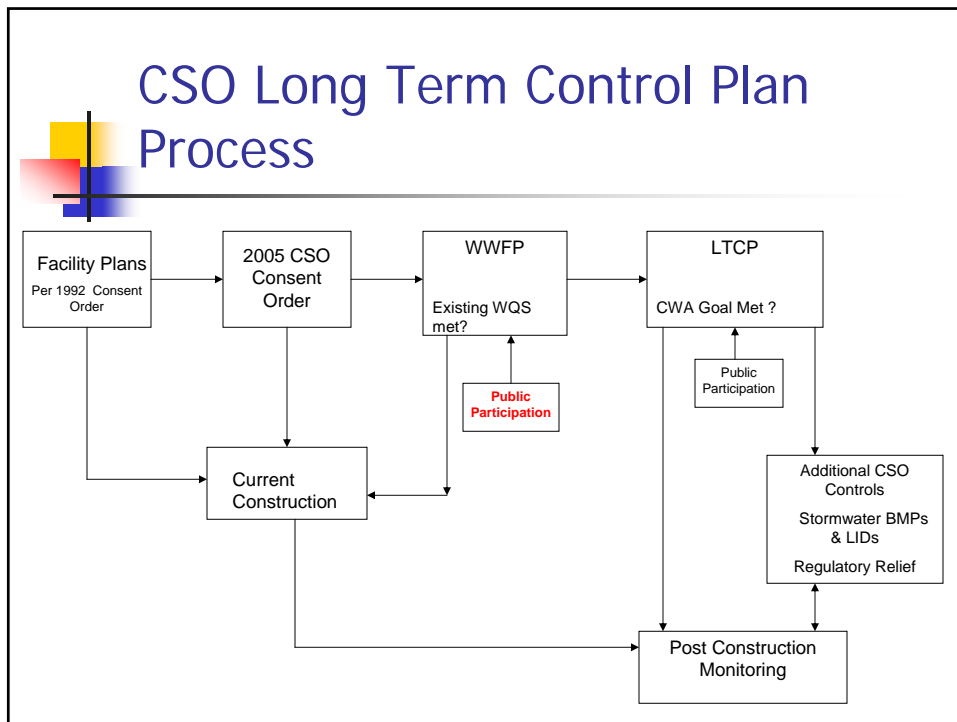


Key Components

- Restoration of area around outlet structure
- Landscaping Improvements and Beautification
- Restoration of erosion gullies
- Retrofitting catch basins
- Replacement of curb, fence, and pathway
- Restoration of swale
- Construction of rain garden

Next Steps for NYCDEP

- Continue Implementation of Alley Creek CSO Facility Plan Elements
- Prepare LTCP Report for NYSDEC and Submit 6 Months after Approval of WB/WS Facility Plan
- Implement Post-Construction Monitoring
- Combine Individual LTCPs into a Comprehensive NYC LTCP



Waterbody/Watershed Facility Plan (WWFP) Current Document Review

- Identify and Evaluate
 - Cost effective CSO controls to meet or exceed current WQS
 - 100% CSO abatement
 - The highest reasonably attainable uses of the water body
 - Acts as a foundation for future long term control planning
- Public Participation
 - Draft Alley Creek and Little Neck Bay WWFP provided to the public after DEC's initial review
 - Public information meeting held by DEC/DEP – 5/21/08
 - 30 day public comment period closes 6/20/08 with published responsiveness summary to follow



Long Term Control Plan

- Evaluation of anticipated WQ (post-WWFP implementation) vs. CWA Goals - The "Gap"
- Identification of cost-effective alternatives and feasibility analysis of additional CSO abatement to meet CWA Goals
- Inclusion of Stormwater BMPs and LIDs
- Looking for
 - Incremental WQ improvements over time (20-30 years)
 - Ways to bridge the "Gap"
 - 9 Minimum Controls
 - Source Control – Stormwater BMPs & LIDs
 - Additional cost-effective CSO reduction
 - Variance – allows operation to verify effectiveness through post construction monitoring
 - Use Attainability Analysis (UAA)



Long Term Control Plan

- Public Participation
 - Draft Alley Creek and Little Neck Bay LTCP provided to the public after DEC's initial review
 - Public information meeting will be held by DEC/DEP
 - 30 day public comment period with responsiveness summary
- 5-Year review cycle to correspond with SPDES Renewal
- Alley Creek and Little Neck Bay LTCP due 6 months after DEC approval of WWFP – anticipated early 2009
- City-Wide LTCP – compilation of all 12 LTCPs – due 12/31/2017



Post Construction Monitoring

- Data to be used in re-evaluation of the LTCP every 5 years upon SPDES permit renewal
 - May identify additional CSO controls
 - Evaluation and implementation of BMPs & LIDs as appropriate
 - LTCPs are “living documents”



Alley Creek and Little Neck Bay WWFP

- DEC and EPA support core components
- Implementation will be a major step in incremental WQ improvement:
 - Alley Creek = Class I Standards
 - DO = 94%; FC = 100%; TC = 100%
 - Little Neck Bay (DMA Beach) = Class SB Standards
 - DO = >99%; Entero = 100%; FC = 100%; TC = 100%
- DEC expects additional incremental improvements through the LTCP process



Contact Information

- Please send questions and comments by June 20, 2008 to:

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11/21/2008

**Responsiveness Summary
To Questions and Comments Presented to the
New York State Department of Environmental Conservation and the
New York City Department of Environmental Protection
On the Alley Creek and Little Neck Bay
Waterbody/Watershed Facility Plan**

A. QUESTIONS BY ATTENDEES AT PUBLIC MEETING HELD WEDNESDAY, MAY 21, 2008 AT DEP ALLEY CREEK CONSTRUCTION FIELD OFFICE, QUEENS, NY

A.1. QUESTIONS ON GENERAL DEP STANDARD PRACTICE

A.1.a) Does the DEP recirculate storm water in facilities that they are building in and around Alley Creek? What happens to the stormwater around DEP facilities? Is there any capture?

DEP does not have any facilities that recirculate stormwater. However, DEP is currently piloting several stormwater management technologies to test for feasibility, including inflatable dams, pervious pavements, rain barrels, green roofs, and blue roofs. DEP facilities are constructed in accordance with all building code requirements for stormwater management.

A.2. SPECIFIC ALLEY CREEK CSO RETENTION TANK QUESTIONS

A.2.a) In spite of the relatively low cost of installing a bending weir at Chamber 6, and the previous inclusion of this selected alternative in the Alley Creek and Little Neck Bay WB/WS Facility Plan, why hasn't the bending weir alternative been finalized? Would the bending weir or fixed weir eliminate all CSO discharges to TI-008?

A recent hydraulic analysis determined that the bending weir may not be necessary because the existing static weir can be adjusted with stop logs to perform like the proposed bending weir. Both weir alternatives are projected to completely abate CSO overflows to TI-008 during the design year. DEC has determined that the stop logs will provide equivalent flow diversion as the bending weir would and therefore, DEC has directed DEP to install the stop logs. DEP is currently evaluating optimum stop log configurations to optimize CSO reductions.

A.2.b) Is the method of utilizing inline storage being implemented?

There is no inline storage for this project other than the double barrel sewer that is part of the storage tank.

A.2.c) Is there a mechanism for shutting off the air filtration system at the Old Douglaston Pumping Station due to energy consumption concerns?

The system is both a ventilation and odor control system. The odor control system can be turned off if it is found that odors are not an issue. If the odor control system is turned off, the ventilation system will need to be operated for health and safety reasons while personnel are in the facility.

A.2.d) Will there be an on-site crew at the Alley Creek Facilities?

There will be no permanent on-site crew at these facilities. Continuous monitoring of the facility will be via a telemetry system.

A.2.e) What is the schedule to get the Alley Creek CSO Retention Facility online?

Are there any penalties for the DEP or construction companies finishing late?

The milestone date for construction completion is December 2009 pursuant to the 2005 CSO Consent Order for both the pump station and the tank. The DEP is working to meet this milestone but has encountered construction delays due to unanticipated field conditions. DEP has notified DEC about the delays in accordance with the provisions of the Order and is working to mitigate the delays and recover time. There are provisions in the Order that could trigger imposition of penalties for finishing late but the accrual of such penalties, if any, is dependant upon the cause of the delay and DEC's determination of related claims.

A.3. QUESTIONS ON ALLEY CREEK RESTORATION PROJECTS

A.3.a) Under the Alley Park Environmental Restoration Project, how is the DEP going to cover the large CSO retention tanks?

The tanks will be covered with topsoil, grass, wildflowers, etc., except in the immediate vicinity of access manholes, which will not be landscaped and will remain exposed concrete to allow access and other maintenance-related activities.

A.3.b) Will there be public access to the land under the Alley Park Environmental Restoration? Will any restoration be done in the area of TI-008?

Determination of access opportunities to the areas of the Alley Park Environmental Restoration is the responsibility of the NYC Department of Parks and Recreation. In the area of TI-008 the tidal wetlands will be planted with more of the original plant species. In addition, a bird watching platform will be constructed on top of the outfall.

A.3.c) Will there be any masking of the outfall for aesthetic purposes?

No, however scour protection measures have been implemented to prevent scouring of the Creek bed. There are also baffle blocks on the bottom of the outfall that serve to reduce the velocity of the discharge into the Creek as well as planting of native species along the Creek and up to the outfall.

A.4. MISCELLANEOUS QUESTIONS

A.4.a) Does the DEC ever receive or evaluate floatables data that are collected?

DEC receives an Annual Report on CSO Best Management Practices submitted by DEP. Floatables data and floatables control are included as a chapter in the report along with other information required in SPDES permits for the 14 DEP Water Pollution Control Plants. This report is reviewed and commented on by the DEC.

B. QUESTIONS AND COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD

B.1. BMPs / LOW-IMPACT DEVELOPMENT / “GREEN” INFRASTRUCTURE

B.1.a) The WB/WS Facility Plan does not adequately include BMPs for source control. It was recommended that the Plan be revised to include a deadline for completing source control modeling efforts and incorporating BMP modeling into the schedule were raised. Analyses of alternatives that increase separate stormwater (e.g. sewer separation) should not assume that the full volume of stormwater will be discharged without the application of any BMPs to reduce pollutant loadings “to the maximum extent practicable”. It was suggested that all costs and benefits of BMPs be included in the CSO Alternatives evaluation. The City should begin implementing CSO source control measures immediately into city projects. The lead agency on a project could be required to consult with DEP’s Bureau of Environmental Planning and Assessment as part of CEQR/SEQRA documentation.

DEP focused its alternatives analysis on technologies that showed promise in attaining the goals of the study in cost-effective, timely, measurable ways. Stormwater BMPs and other “green solutions” are promising, and their potential benefits extend beyond stormwater management to include habitat restoration, heat island mitigation, and urban aesthetics, but could not be retained as alternatives for inclusion in the WB/WS Facility Plan because of uncertainties related to cost-effectiveness, timeliness, and measurability. DEP is undertaking a number of BMP pilot projects to address these uncertainties with a particular focus on New York City-specific climate and site conditions. The findings of these evaluations will be incorporated into the City’s CSO abatement program where possible, cost-effective, and environmentally beneficial. Any solution satisfying these criteria would be included through a future modification when the WB/WS plan is converted to a Drainage Basin Specific Long Term Control Plan or in the subsequent City-Wide Long Term Control Plan or when the Long Term Control Plan is updated every five years as a part of the SPDES permit renewal process.

B.2. QUESTIONS ON WATER-QUALITY STANDARDS

B.2.a) All analyses of primary contact standards should include both the average and enterococci single-sample maximum standards to address short-term “spikes” in pollution levels that can be missed when considering only averages.

The NYSDEC surface water quality standards and classifications were used for evaluation of CSO Control Alternatives. The enterococci single sample maximum is not a

standard but rather a guidance value for use in consideration of further testing and/or beach closures. Similarly, for standards compliance purposes, the calculated fecal coliform and total coliform concentrations were analyzed in a manner consistent with the numerical standard's applicable statistic (mean, geometric mean, monthly maximum, etc.). These statistics were established by EPA based on epidemiological studies that use these statistical measures to account for health impacts of variable pathogen concentrations in natural surface waters. Focusing on the spikes does not indicate compliance with standards and is not appropriate for the planning-level analyses contained in the WB/WS Facility Plan. Though extreme conditions are not explicitly relevant to these standards, frequency, duration and magnitude are accounted for indirectly in the statistical measures. These results are presented graphically in Sections 7 and 8, as well as in Appendix C of the WB/WS Facility Plan.

The NYSDEC Class I dissolved oxygen standard applicable to Alley Creek is expressed as a “never-less-than” single value so that any one location not meeting that value during any hour of the year represents a contravention of the water-quality standard. In February 2008, NYSDEC adopted acute and chronic dissolved oxygen standards based on a November 2000 USEPA publication in which exposure to low dissolved oxygen over time was used to establish protection limits for different life stages, rather than a single absolute value. For SA, SB, and SC waters, the chronic standard is a minimum daily average of 4.8 mg/L. The standard also states that “the DO may fall below 4.8 mg/L for a limited number of days” but “shall not fall below the acute standard of 3.0 mg/L at any time.” The allowable duration of time between 4.8 and 3.0 mg/L depends on the duration and intensity of the low DO condition. This standard is applicable in Little Neck Bay.

B.3. QUESTIONS AND COMMENTS ON FUTURE DEVELOPMENT / POST-CONSTRUCTION MONITORING / CLIMATE CHANGE

B.3.a) Modeling should be based on quantitative assumptions that are consistent with other planning contexts. The WWFPs and LTCPs must account for the likely range of dry weather sewage flows, based on agreed-upon long-term projections of land use and water use, which would be based in turn on long-term socio-economic projections of households, economic activity and carrying capacity.

The projection of dry-weather future sanitary flows considered development in the watershed by using sanitary sewage flow estimates extrapolated to the year 2045. Estimates of 2030 population were developed by the NYC Department of City Planning for each of the 188 neighborhood areas in New York City using practices consistent with U.S. Census Bureau methodology. In consultation with City Planning, DEP further projected neighborhood populations to year 2045 to provide a more suitable and conservative projection point for long-term infrastructure planning. An additional conservative assumption was made that per capita water consumption in 2045 would be the same as it was in 2000, which ignores the substantial and ongoing reductions in water usage resulting from various DEP programs such as metering and low-flow toilets. Thus, the assessment of various engineering alternatives examined under the Alley Creek and Little Neck Bay WB/WS Facility Plan includes the expected impact of future growth and development and an additional margin of safety.

B.3.b) Multiple comments were received questioning the use of the JFK 1988 precipitation year. The analysis should account for the likelihood of increased rainfall and model for a range of rainfall conditions rather than a single year. In addition, other Harbor-wide projects have included other rainfall years.

In accordance with EPA CSO Policy, DEP analyses are based upon long-term average conditions rather than extreme event conditions. DEP analyzed over 50 years of rainfall in the metropolitan area to identify a rainfall record that represents long-term average hydraulic conditions, thus satisfying the EPA requirement. The study of rainfall records has found that, while CSO response to precipitation is complicated, rainfall intensity has a greater influence on CSO than total annual rainfall volume. For example, simulations for another project that used records from 2003, a recent “wet year” (in terms of total annual rainfall), produced less CSO volume than the rainfall pattern selected to evaluate alternatives and project water quality for the WB/WS Facility Plan and LTPCP analyses.

B.3.c) Climate change affects the likely range of water levels in open waters and of storm surge events. WWFP and LTCP plans should be based on long-term projections of the local impacts of climate change, including type, frequency and intensity of extreme events consistent with other related plans.

DEP has begun a study of the potential impacts of climate change and sea-level rise on predicted rainfall patterns, sewer capacity, and wastewater treatment capacity. Sea-level rise and storm surges are expected to reduce CSOs, since higher water levels in the receiving waters tend to hold back the tide gates and maximize the storage of combined sewage within the sewer system. The first part of the study, The NYCDEP Climate Change Program Assessment and Action Plan (May 2008), addressed planning efforts across the Department to integrate potential risks of climate change and greenhouse gas (GHG) emissions management in future in DEP operations and mitigation strategies. The Action Plan is complete and is available on DEP’s website at

http://home2.nyc.gov/html/dep/html/news/climate_change_report_05-08.shtml

As part of a request for proposals (RFP) recently released by DEP, DEP will assess whether a different rainfall pattern based on potential future volumes, intensities and return frequencies should be adopted for future analyses of drainage, sewer and wastewater treatment infrastructure. As described above, the selected 1988 rainfall pattern complies with EPA’s CSO policy and is suitable for comparing the performance of infrastructure improvements to one another to develop the most cost-effective CSO abatement alternatives. The post construction monitoring plans will provide DEP with additional data to evaluate impacts of climate change and rainfall variability on attaining water quality standards and this will further be addressed via subsequent LTCPs.

B.3.d) The WWFP should be revised to address the CSO Control Policy requirement that, if using the demonstration approach (as the city is here), a municipality must ensure that its plan is “designed to allow cost-effective expansion or cost-effective retrofitting if additional controls are subsequently determined to be necessary to meet water quality standards or designated uses”.

The Post-Construction Monitoring Plan data and information will be used to evaluate the success of the Alley Creek Tank. If tank performance and water quality standards attainment are inadequate, the Plan will be modified to achieve water quality goals.

B.4. MISCELLANEOUS QUESTIONS AND COMMENTS

B.4.a) Several comments addressed the methodology of alternative evaluations. One comment suggested that the evaluation should consider existing CSO discharge volumes in addition to the hypothetical “2045 Baseline.” There was a question of whether the Plan satisfies EPA’s demonstration approach requirement to achieve the “maximum pollution reduction benefits reasonably attainable.” Another comment claimed that the conclusion that more CSO reduction would not improve water quality was unsubstantiated. One comment recommended not including any costs for work that would or should have been done anyway.

The hypothetical “Baseline” is established to compare alternatives to one another using conservative assumptions about future conditions. The Baseline condition represents a future typical year without implementing any further controls but with the added pressure of increased population. Each alternative in comparison results in a CSO reduction that can be attributed entirely to that alternative, and its implementation cost can be understood in terms of reduction value to CSO abatement. In contrast, existing CSO discharges can be misleading (see answer to B.3.b). The Alley Creek WB/WS Facility Plan report describes the range of water-quality benefits attainable through CSO control, and assesses the cost-effectiveness of the required controls, yielding a reasonable course of action that is expected to result in attainment of current water quality standards. This is the overarching goal of a waterbody/watershed facility plan. In contrast, the subsequent LTCP will attempt to attain the fishable/swimmable goals of the Clean Water Act, which the Plan currently shows as not reasonably attainable due to the marginal cost benefits of additional controls. This evaluation is consistent with the EPA CSO Control Policy, which allows cost/benefit analysis to be used in the selection of alternatives. Costs were developed based only on elements related to CSO abatement or water quality improvement, and were compared on a net present value basis per standard engineering practice.

Performance of the Alley Creek WB/WS Facility Plan was evaluated using the reduction in the annual number of CSO events and annual discharge volume. The Plan is projected to reduce the number of events by 30%, from 38 to 27. The net CSO reduction for the Alley Creek WB/WS Facility Plan is 50% (from Baseline conditions), from 517 MG/year to 256 MG/year. Of the remaining 256 MG, no CSO will be discharged at TI-008. It will discharge through the tank and out TI-025, thus receiving preliminary treatment. The remainder of the CSO, 261 MG/year, is captured and pumped to the Tallman Island WPCP where it will receive full secondary treatment and disinfection under most conditions.

B.4.b) DEC should require the city to provide a model sensitivity analysis before approving this or other WWFPs, which rely very heavily on modeling to support their analyses. This is particularly important where, as noted in DEC’s comments to the city on the Nov. 2006 draft of Alley Creek, DEC has raised questions about the models “parameters and assumptions” in light of conflicting empirical water quality monitoring data. Provide clearer and more detailed analysis of the role of non-CSO sources since NYCDEP asserts

that sources other than CSOs are to blame for a significant portion of the pollution in Alley Creek and Little Neck Bay. Moreover, to the extent that other water pollution sources such as leaking septic systems are at issue, the NYCDEP should detail its plans to abate such pollution.

The Alley Creek water quality modeling analyses, which includes the 100 percent CSO removal scenario, indicates that existing problems at DMA Beach are not CSO-related. The post-construction monitoring program referenced in Section 8 of the WB/WS Plan is necessary to validate the projections and determine the overall attainment with water quality standards once the proposed Plan is fully implemented. The East River Tributaries Model (ERTM) performs calculations at a spatial scale appropriate for CSO and stormwater source evaluations. Calibration of the East River and Open Waters to data in those locations are very consistent. However, the model does not include localized sources such as: recreational boat discharges from local yacht clubs, potential failing septs in the Douglas Manor community and waterfowl, all of which have been identified as potentially significant at the DMA Beach. In addition, the processes for these sources such as pathogen re-growth in beach sand are not well understood.

The WB/WS Facility Plan models project full primary contact use for June, July and August as evaluated for CSO and stormwater impacts. The uncertainty associated with the pathogen concentrations at DMA Beach noted by DEC highlights the importance of the NYCDOHMH beach monitoring program and the need to identify and eliminate localized pathogen sources. Although not in the scope of this WB/WS or LTCP, an ongoing investigation is being coordinated with multiple City Agencies, along with local elected officials to track water pollution sources.

B.4.c) Explain and correct, as needed, apparent discrepancy in Baseline CSO volumes. A table provided by DEP, dated 9/29/04 and attributed to HydroQual, indicates that currently 76 million gallons (MG) of CSO discharge flows annually into Alley Creek. However, the WWFP states that under 2045 “baseline” conditions there would be only 59 million gallons of CSO discharge. How is this possible? DEP must explain what modeling assumptions have changed to account for this decrease. The final WWFP should present a modeled projection of CSO volumes (and frequency) under current baseline conditions, not only 2045 baseline conditions.

The landside models of the NYCDEP sewershed/watershed, including the Tallman Island Model, are evolving tools that are being updated and evaluated on a continuing basis. The latest Tallman Island Model output available at the time of the Alley Creek analyses was used. Comparison with older model output is not useful unless there is a significant change or an unexpected model response. The difference in Baseline annual volumes (76 MG vs 59 MG) is typical of ongoing model development and is likely the result of updates and “modeling noise”. Further, neither volume cited was intended to represent current or existing conditions: as noted in the answer to B.3.b above, CSO response to precipitation is complicated, and attempts to model current conditions can be extremely misleading.

B.4.d) Table 8-1 explains that the 517 MG of discharge under baseline 2045 conditions actually consists of 59 MG of CSO, which is mixed with 459 MG of stormwater from a separated sewer system drainage area, it does not explain how the projected “with plan” 256 MG of discharge breaks down between CSO and stormwater.

As explained in the WB/WS Report, the 517 MG projected for Baseline includes 59 MG of combined sewage and 459 MG of stormwater. The stormwater enters the discharge pipe for CSO outfall TI- 008 downstream of the regulator, but is nonetheless contributing to the discharge from TI-008. By virtue of the fact that the stormwater is mixed with CSO, the entire 517 MG that discharges from TI-008 is considered to be CSO. Upon implementation of the Alley Creek WB/WS Facility Plan, no CSO will discharge from TI-008 in a typical year, and all CSO will be diverted to the tank. The 256 MG that overflows from the tank receives preliminary treatment before being discharged out of the new CSO outfall TI-025, and the remainder of the 517 MG Baseline CSO is captured and pumped to the Tallman Island WPCP.

B.4.e) The “ERTM” water quality modeling report projects that separate stormwater discharges would decrease in the “100% CSO reduction” scenario. This scenario is stated to reflect complete sewer separation. If the combined sewers were replaced with separate sewers, the stormwater portion of the CSOs would be discharged simply as stormwater, thereby significantly increasing the separate stormwater discharges for this scenario as compared to baseline.

The reduction in stormwater when comparing Baseline to 100% CSO reduction is a result of the Alley Creek Tank. Both the WB/WS Facility Plan and 100 Percent Reduction scenarios include the Tank. However, whereas the WB/WS Facility Plan leaves 18 MG of stormwater discharging from TI-008, the 100 Percent CSO Removal scenario captures all stormwater at TI-008. This is a conservative analysis in that the load removed from the system is more than just CSO.

B.4.f) The Alley Creek WWFP states that Douglas Manor Association (“DMA”) beach is a “sensitive area,” pursuant to the EPA CSO Control Policy. However, the report does not adequately address the requirements for sensitive areas (a) prohibiting “new or significantly increased overflows” and (b) eliminating or relocating overflows that discharge to these areas, unless this is proven to be physically impossible or economically unachievable. The WWFP does not propose either to “eliminate or relocate” overflows nor does the report demonstrate that this would be “physically impossible or economically unachievable.”

The WB/WS Facility Plan identifies the primary contact recreation use at the DMA Beach as a sensitive area, and provides an analysis of protecting it. No “new or significantly increased overflows” will occur. In fact, for the design year condition, the WB/WS Facility Plan is expected to provide a 51% reduction in CSO overflows to the Alley Creek system. Eliminating overflows to these areas was analyzed by examining the 100% CSO Reduction Case, which would require a 30 MG tank to accomplish. This alternative was proven to be both physically impossible (too large to be sited in the Alley Creek vicinity due to the presence of extensive wetlands and lack of available land) and economically unachievable: the estimated cost of \$558,000,000 (November 2008 dollars)

was determined to be unreasonable given the lack of any significant water quality improvement at the DMA Beach.

B.4.g) Questions were raised pertaining to the schedule of compliance with Local Law 5 of 2008, to create the stormwater management plan and to develop a system for notifying the public of the occurrence and location of CSO events and the period of time during which contact with affected waterbodies may pose health risks.

The City Council passed Local Law 5 of 2008 requiring the Mayor's Office of Long-Term Planning and Sustainability to develop a City-wide Sustainable Stormwater Management Plan, the goals of which are to reduce stormwater volume, improve water quality, and enhance the use and enjoyment of the city's waterbodies for recreational activities. A substantial public participation and public education program has obtained public input during the development of the plan. Specific requirements for signage, public notification for location and occurrence of CSOs, and other education activities are also included. The Mayor's Office established the BMP Interagency Task Force to address this directive, and NYCDEP is lending substantial support. NYCDEP is also evaluating regulatory changes that could require BMPs for certain development, and will have a contractor on board in 2009 to construct BMP pilot projects and a New York City specific urban BMP design manual.

NYC's Sustainable Stormwater Management Plan, was released as a Draft Plan on October 1, 2008. The Mayor's Office of Long-Term Planning and Sustainability accepted public comments until October 31. Feedback will be incorporated into the Final Plan, which will be released on December 1. A copy of the October 2008 draft plan can be found at: http://www.nyc.gov/html/planyc2030/downloads/pdf/Draft_Sustainable_Stormwater_Management_Plan_October_2008.pdf